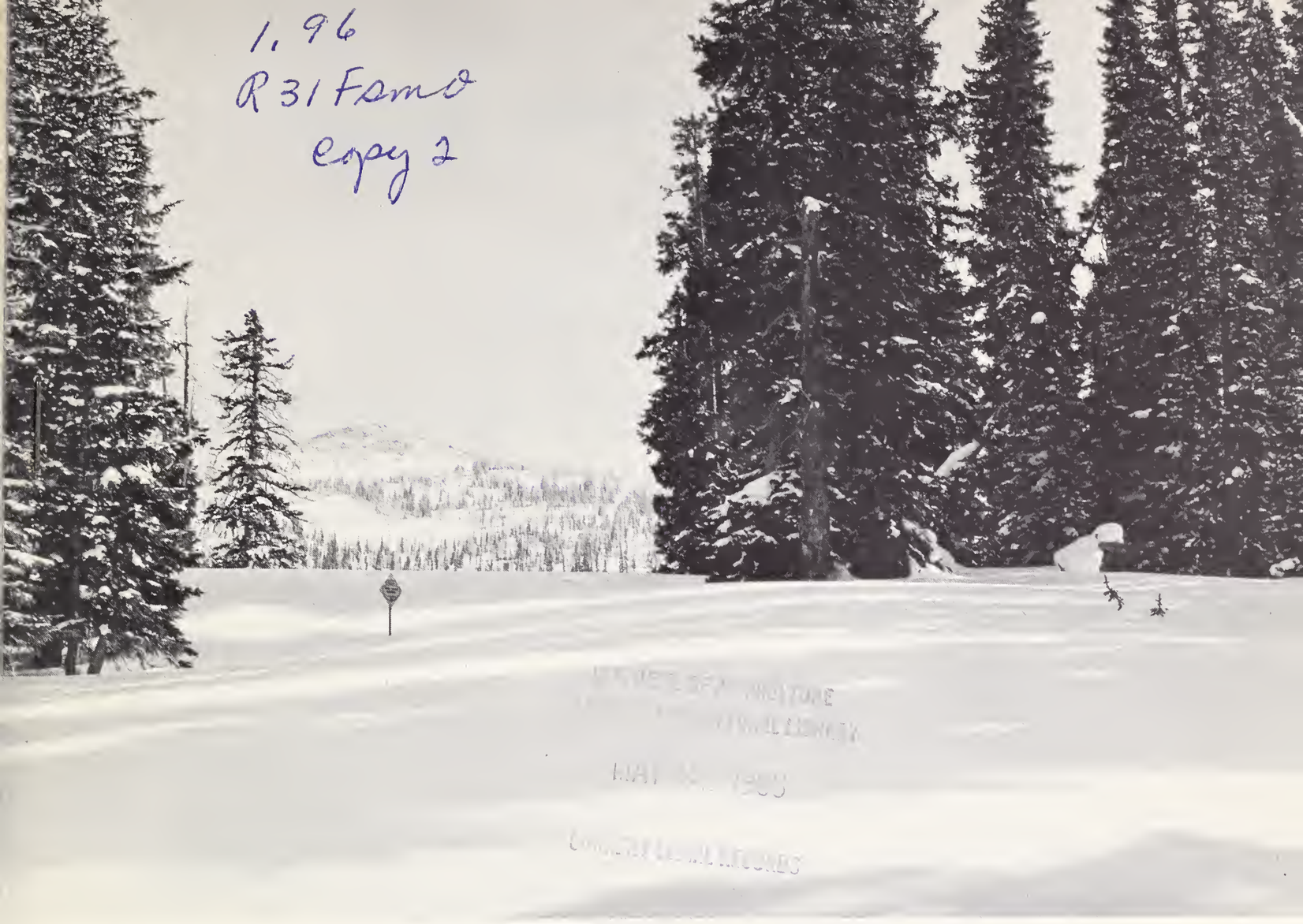

WATER SUPPLY OUTLOOK FOR MONTANA

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE.

and

MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

AS OF

MAY 1, 1968

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 Federal Office Building, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388 , Sacramento , California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

USDA SCS PORTLAND, OREG. 1966

WATER SUPPLY OUTLOOK FOR MONTANA

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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MONTANA WATER SUPPLY OUTLOOK
May 1, 1968

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*   *
* High elevation snow pack increased in water content   *
* during April. Melt continued at lower elevations.   *
* Streamflow during April was generally below average.   *
* Forecasts of streamflow for the next five months   *
* are slightly higher, percentagewise, than those   *
* issued last month for the April-September period.   *
*   *
* *

Columbia River Basin

Snow - Water content increased at high elevation snow courses and decreased at low elevation courses during April. Snow pack over Columbia drainages is 60 to 70 percent of last year and 90 to 95 percent average. Snow pack is above average on some of the upper Clark Fork tributaries. There was some improvement in the Kootenai snow pack, particularly in the northern portion, due to reduced melt and an increase during the month.

Streamflow - Runoff during April was well below average. May through September runoff is forecast less than last year in all drainages except for streams in the upper Clark Fork where streamflow is expected to be about the same as last year.

May-September forecasts are generally 70 to 80 percent average in the Kootenai drainage, 75 to 90 percent in the Flathead area, 90 to 110 percent in the Clark Fork drainage above Missoula and the Bitterroot drainage, and 70 to 80 percent in the Clark Fork drainage downstream from Missoula.

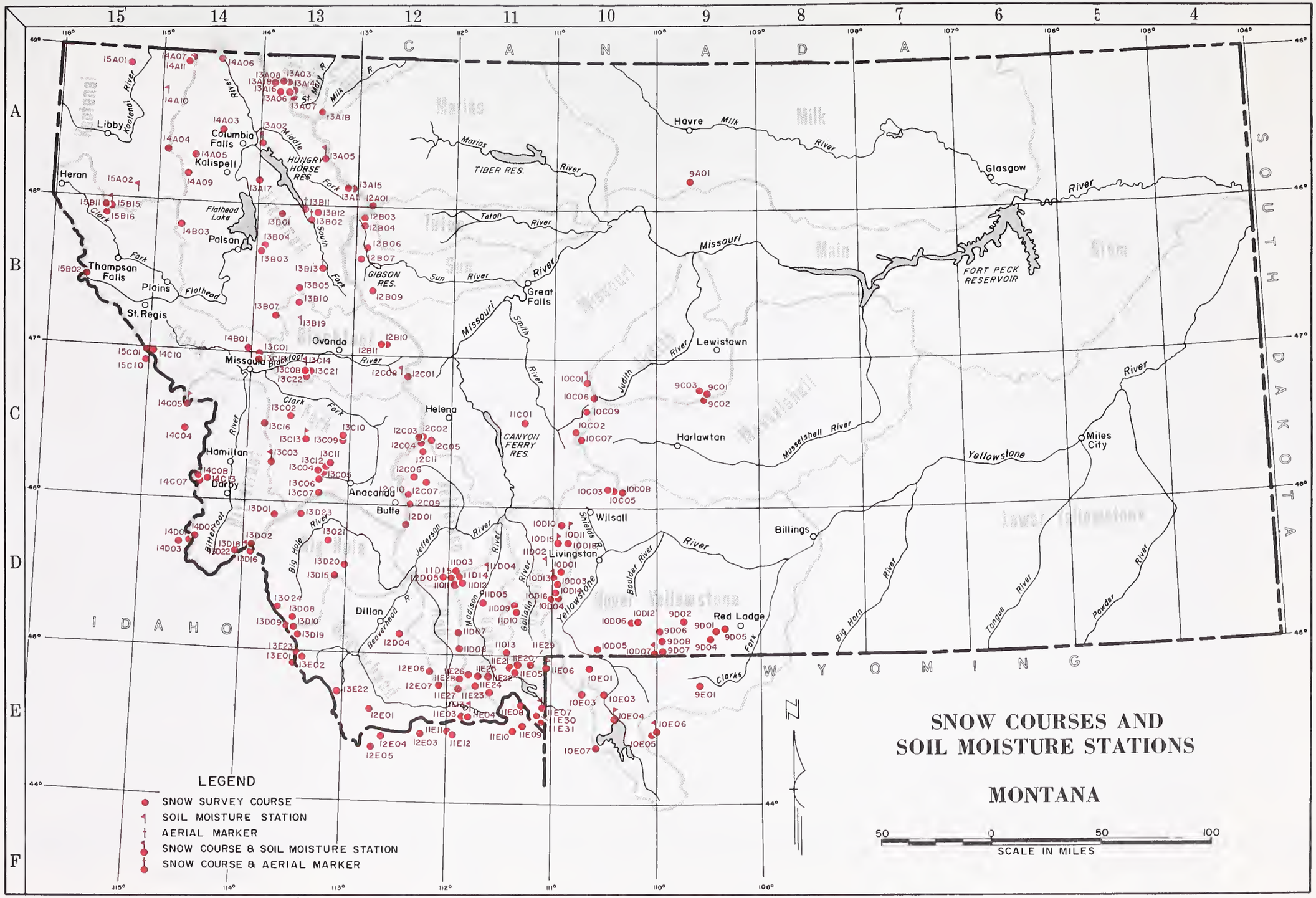
Late season irrigation supplies on unregulated streams are expected to be near average on the upper Clark Fork and a little below average on the Bitterroot and Blackfoot drainages. Other areas can expect deficient late season supplies.

Missouri River Basin

Snow - During April there was a moderate increase in water content at higher elevations and a decrease in melt at lower elevations. As a result, current snow pack is above average in most areas. Exceptions are drainages north of the Dearborn where snow is about one-half of last year and 70 to 80 percent average. High elevation snow courses in the vicinity of Bozeman in the Gallatin drainage have record high May 1 water contents. Some of the records began in 1934. In all drainages except those in the northwest and Gallatin, snow pack is 70 to 80 percent of last year and 120 to 130 percent average. Over the Gallatin drainage, snow pack is about the same as last year and 144 percent average.

Streamflow - April streamflow was generally below average from snow fed streams. Forecasts for the next five months are generally 10 to 20 percent above average in the Yellowstone, Jefferson and Madison River drainages. Forecasts are 70 to 80 percent average in the Sun, Teton, and Marias drainages, 90 percent in the St. Mary and Dearborn drainages. Streams in central Montana and the Gallatin area are forecast 130 to 170 percent average.

Late season irrigation supplies on unregulated streams are expected to be near average in southwestern Montana, below in northwestern drainages and above average elsewhere.


SNOW COURSES AND
SOIL MOISTURE STATIONS
MONTANA
LEGEND
SNOW SURVEY COURSE
SOIL MOISTURE STATION
AERIAL MARKER
SNOW COURSE & SOIL MOISTURE STATION
SNOW COURSE & AERIAL MARKER
SCALE IN MILES
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SNOW COURSES

COLUMBIA RIVER BASIN

KOOTENAI RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Baree Creek	15B11	5500	36	26N	31W	1956	3,4,5,5½	2
Baree Midway	15B1[illegible]	4600	31	26N	30W	1965	3,4,5,5½	2
Baree Trail	15B15	3800	5	25N	30W	1965	3,4,5,5½	2
Brush Creek	1AA[illegible]	5000	12	30N	26W	1937	3,4,5	1,2
Graves Creek	1AA[illegible]	4300	1	30N	25W	1965	3,4,5,5½,6	1,2
Red Mountain	15A01	6000	4	30N	29W	1937	3,4,5,5½,6	1,2
Weasel Divide	1AA[illegible]	5450	20	37N	24W	1937	3,4,5,5½,6	1,2

FLATHEAD RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Bassoo Peak	1ZB03	5150	11	24N	25W	1961	3,4,5	1,5
Beaver Lake	13A11	5900	31	28N	11W	1964	3,4,5	2
Big Creek	13[illegible]	[illegible]	[illegible]	22N	18W	1941	3,4,5, 6	1,5
Camp Misery	13A1[illegible]	[illegible]	33	28N	15W	1962	3,4,5,	1,2
Desert Mountain	13A02	5600	24	31N	19W	1937	1,2,3,4,5, 6	1,2
Fatty Creek	13B02	5570	8	22N	18W	1962	3,4,5, 6	1,5
Flattop Mountain	13A19	6300	12	35N	18W	1968	1,2,3,4,5, 6	1,6
Griffin Creek Divide	1ZA09	5150	11	28N	25W	1960	3,4,5	1,5
Gunsight Lake	13B12	6300	35	26N	14W	1964	3,4,5	1
Hell Roaring Divide	1AA03	5770	35	32N	22W	1942	1,2,3,4,5,5½,6	2
Hollerock	13B15	4530	18	21N	17W	1951	1,2,3,4,5	1,2
Kishenehn	1AA06	3890	14	37N	22W	1954	3,4	6
Logan Creek	1AA05	4300	34	30N	24W	1937	3,4,5	1,2
Marias Pass	13A05	5250	34	30N	14W	1934	1,2,3,4,5	3
Mineral Creek	13A16	4000	29	35N	17W	1957	3,4,5	6
North Fork Jocko	13B07	6330	3	17N	17W	1941	3,4,5,5½,6	1,5
Spotted Bear Mountain	13B02	7000	23	25N	15W	1948	1,2,3,4,5	1
Trinkus Lake	13B01	6100	9	25N	17W	1948	3,4,5	1
Twin Creeks	13B11	3580	24	26N	16W	1951	1,2,3,4,5	1
Upper Holland Lake	13B05	7000	28	20N	15W	1948	3,4,5	1

CLARK FORK RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Black Pine	13C13	7100	26	8N	15W	1959	1,2,3,4,5,5½,6	1
Copper Creek	12B10	5700	1	15N	9W	1962	3,4,5	1,2
Cotter Mine	12B11	6250	2	15N	9W	1962	3,4,5	1,2
Coyote Hill	13B10	4200	12	18N	16W	1947	1,2,3,4,5	1,2
El Dorado Mine	13C09	7800	23	8N	12W	1949	3,4	1
Fred Burr Pass	13C11	8000	32	6N	13W	1957	3,4,5	1
Gold Creek Lake	13C10	7200	14	8N	12W	1949	3,4	1
Heart Lake Trail	1AC[illegible]	4800	11	24N	27W	1965	3,4,5	1,2
Hoodoo Basin	15C10	6000	17	14N	27W	1967	1,2,3,4,5,5½,6	1,2
Hoodoo Creek	15C08	5900	16	14N	27W	1937	1,2,3,4,5	1,2
Intergard	13C0[illegible]	6150	6	5N	13W	1936	2,3,4,5	4
Lubrecht Forest No. 3	13C21	5450	9	13N	14W	1951	1,2,3,4,5	8
Lubrecht Forest No. 4	13C22	4650	23	13N	15W	1951	1,2,3,4,5	8
Lubrecht Forest No. 6	13C08	4020	11	13N	15W	1951	1,2,3,4,5	8
Red Lion	13C12	7100	22	6N	13W	1958	3,4,5	1
Skalkaho Summit	13C03	7260	30	6N	17W	1937	3,4,5,5½,6	1
Slide Rock Mountain	13C02	7100	35	10N	16W	1937	3,4,5	1
Southern Cross	13C05	6500	8	5N	13W	1936	2,3,4	4
Spring Gulch	13C18	6000	12	14N	13W	1961	1,2,3,4,5	8
Storm Lake	13C07	7780	19	4N	13W	1939	1,2,3,4,5	1
Stuart Mill	13C06	6500	19	5N	13W	1936	2,3,4	4
Stuart Mountain	13C07	7400	6	14N	18W	1936	1,2,3,4,5,5½,6	8
TV Mountain	13B0[illegible]	6800	33	15N	19W	1956	1,2,3,4,5,5½,6	8

BITTERROOT RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Ambrose	13C16	4280	28	9N	18W	1960	3,4,5	1
East Fork R.S.	13D11	5200	16	2N	17W	1937	3,4	1
Gibbons Pass	13D12	7100	4	2S	19W	1934	1,2,3,4,5,5½,6	1,3
Lost Horse	14C07	5940	5	4N	23W	1960	3,4,5,5½,6	1
Nez Perce Camp	14D02	5680	19	1S	23W	1937	3,4,5	1
Nez Perce Pass	14D01	6570	25	1S	24W	1937	3,4,5	1
Saddle Mountain	13D22	7940	5	2S	19W	1965	3,4,5,5½,6	1
Twelvemile Creek	14C13	5600	34	5N	23W	1968	1,2,3,4,5,5½,6	1
Twin Lakes	14C08	6510	32	5N	23W	1960	3,4,5,5½,6	1

ST. MARY RIVER BASIN

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Hudson Bay Divide	13A18	5800	24	34N	14W	1963	3,4,5	3
Iceberg Lake No. 3	13A03	5500	1	35N	17W	1922	5	3,9
Josephine Lower No. 9	13A14	4400	22	35N	16W	1955	5	3,9
Mount Allen No. 7	13A07	5700	27	35N	16W	1922	5	3,9
Piegan Pass No. 6	13A06	5500	27	35N	16W	1922	5	3,9
Ptarmigan No. 8	13A08	5800	36	36N	17W	1937	5	3,9

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Bloody Dick	13D10	7600	12	9S	16W	1948	3,4,5	1
Carter Creek	12D04	7400	22	8S	7W	1963	2,3,4	1
Dad Creek Lake	13E22	8400	24	12S	13W	1965	3,4,5	1
Elk Horn Springs	13D05	7800	21	4S	12W	1935	3,4,5	3
Gold Stone	13D09	8100	11	8S	16W	1948	3,4,5	1
Lakeview Canyon	11E04	6930	26	14S	2W	1948	3,4,5	10
Lakeview Ridge	11E03	7400	27	14S	2W	1948	3,4,5	10
Lemhi Pass	13E01	7480	9	10S	15W	1948	3,4	1
Lemhi Ridge	13E23	8100	4	10S	15W	1967	3,4	1
Trail Creek	13E02	7990	15	10S	15W	1948	3,4	1
White Pine Ridge	12E01	8850	18	14S	9W	1948	3,4,5	1

RUBY RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Branham Lakes	11D14	8850	5	4S	3W	1967	3,4,5	1,12
Glovar Meadow	11D08	8600	28	9S	2W	1963	3,4,5	1
Divide	12E07	7900	14	12S	4W	1963	3,4,5	1
Middle Mill Creek	11D15	7850	17	4S	3W	1967	3,4,5	1,12
Notch	12E06	8500	18	11S	4W	1963	3,4,5	1
Snuggler Mine	12D05	6960	24	4S	3W	1967	3,4,5	1,12

BIG HOLE RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Abundance Lake	13D20	8800	7	3S	11W	1963	3,4,5	1
Darkhorse Lake	13D19	8600	4	8S	16W	1963	3,4,5	1
Foolhen	13D21	8280	11	1S	13W	1963	3,4,5	1
Jahnke Creek	13D08	7340	25	7S	16W	1948	3,4,5	1
Palisade Creek	13D23	8450	3	2N	15W	1967	3,4,5	1
Slag-a-melt Lake	13D24	8750	29	5S	17W	1968	3,4,5	1

JEFFERSON RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Berry Meadow	12C07	7300	8	5N	5W	1962	3,4,5	1
Copper Mountain	12C09	7700	13	3N	7W	1966	2,3,4,5	4
Nez Perce Creek	12C10	6500	16	4N	6W	1967	2,3,4,5	4
Picnic Grounds	12C06	6500	21	5N	6W	1941	2,3,4	4
Pipestone Pass	12D01	7200	10	1N	7W	1938	1,2,3,4,5	1
Rockar Peak	12C11	8000	17	7N	5W	1968	1,2,3,4,5	1

MADISON RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Call Road	11D07	8050	21	8S	2W	1962	3,4,5	1
Four Mile	11D12	6900	5	4S	2W	1965	3,4,5	1
Freezeout Lake	11E25	7200	6	12S	1E	1965	3,4,5,5½,6	2
Freezeout Mountain	11E26	8250	26	11S	1W	1965	3,4,5,5½,6	2
Hebgen Dam	11E05	6550	22	11S	3E	1934	1,2,3,4,5	3
Jack Creek	11D05	7500	13	6S	1E	1961	3,4	1
Lake Creek	11E22	6100	27	11S	1E	1965	3,4,5,5½,6	2
Lion Mountain	11E28	8760	23	11S	2W	1967	1,2,3,4,5,5½,6	2
Lower Twin	11D11	7900	12	4S	3W	1965	3,4,5	1
Madison Plateau	11E31	7750	28	14S	5E	1968	1,2,3,4,5,5½,6	1,2
Meridian Creek	11E23	7000	31	12S	1E	1965	3,4,5,5½,6	2
North Meadow	11D03	7500	24	3S	3W	1961	3,4,5	1
Potomageton Park	11E21	7150	33	10S	3E	1965	3,4,5	2
Sentinel Creek	11E20	B300	17	10S	3E	1965	3,4,5	2
Tepee Creek	11E24	8000	15	12S	1W	1965	3,4,5,5½,6	2
Upper West Fork	11E27	8750	6	12S	2W	1966	3,4,5,5½,6	2
West Yellowstone	11E07	6700	34	13S	5E	1934	1,2,3,4,5	1,3,6
Whiskey Creek	11E30	6800	19	14S	5E	1967	3,4,5	2

GALLATIN RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Arch Falls	10D14	7350	3	5S	6E	1963	1,2,3,4,5,5½,6	1
Bear Dasin	11D09	8150	9	6S	3E	1963	3,4,5	1
Bridger Bowl	10D15	7250	25	1N	6E	1965	1,2,3,4,5,5½,6	1
Carrot Basin	11E29	9000	18	10S	4E	1967	1,2,3,4,5, 6	2
Devil's Slide	10D04	8100	14	5S	6E	1935	1,2,3,4,5,5½,6	1
Hood Meadow	10D03	6400	22	4S	6E	1935	2,3,4,5,5½,6	1
Lick Creek	10D13	6860	10	4S	6E	1964	1,2,3,4,5,5½,6	1
Little Park	11D10	7400	22	6S	3E	1963	3,4,5	1
Maynard Creek	10D18	6210	19	1N	7E	1967	1,2,3,4,5,5½,6	1
New World	10D01	6700	24	3S	6E	1939	2,3,4	1
Shower Falls	10D16	8100	14	5S	6E	1966	1,2,3,4,5,5½,6	1
Taylor Peaks	11D13	8500	26	9S	2E	1967	3,4,5	1
Twenty-One Mile	11E06	7150	1	11S	5E	1934	1,2,3,4,5	3

MISSOURI RIVER MAIN STEM

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Boulder Mountain	11C01	7950	1	9N	3E	1963	3,4,5	1
Chessman Reservoir	12C05	6200	2	8N	5W	1936	1,2,3,4,5	3
Deadman Creek	10C09	6450	23	12N	8E	1966	3,4,5,5½,6	1
Elk Peak	10C07	8000	10	8N	8E	1963	3,4,5	1
Grasshopper	10C02	7000	19	9N	8E	1938	3,4,5	1
Kings Hill	10C01	7500	34	13N	8E	1934	3,4,5,5½,6	1,3
Rocky Boy	9A01	5200	15	28N	16E	1941	3,4,	7
Stemple Pass	12C01	6600	16	13N	7W	1934	3,4,5	3
Ten Mile Lower	12C02	6600	12	8N	6W	1935	1,2,3,4,5	3
Ten Mile Middle	12C03	6800	13	8N	6W	1934	1,2,3,4,5	3
Ten Mile Upper	12C04	8000	19	8N	5W	1935	1,2,3,4,5	3

SUN-TETON-MARIAS RIVERS

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Badger Pass	13A15	6900	4	27N	11W	1964	3,4,5	2
Cabin Creek	12B06	5200	33	23N	10W	1949	3,4,5	2
Five-Bull	12B09	5700	25	20N	10W	1948	3,4,5	1
Freight Creek	12A01	6000	13	26N	10W	1948	3,4,5	1
Goat Mountain	12B07	7000	20	22N	10W	1934	3,4,5	3
Wrong Creek	12B04	5700	32	25N	10W	1949	3,4,5	2
Wrong Ridge	12B03	6800	17	25N	10W	1949	3,4,5	2

JUDITH RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Avalanche	9C02	7100	24	12N	17E	1966	3,4,5	1
Crystal Lake	9C01	6100	19	12N	18E	1941	3,4,5	1
Rock Creek	9C03	5600	8	12N	18E	1966	3,4,5	1
Spur Park	10C06	8000	20	12N	9E	1963	1,2,3,4,5, 6	1

UPPER YELLOWSTONE RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Bald Ridge	10C05	7500	11	4N	10E	1961	3,4,5	1
Camp Senia	9D01	7890	2	8S	18E	1937	3,4,5,5½,6	1
Cooka Station	9D07	8150	19	9S	15E	1966	3,4,5	1
Crevice Mountain	10D05	8400	22	9S	9E	1935	3,4	2
Fishsr Creek	9D06	9100	11	9S	14E	1966	1,2,3,4,5,5½,6	1,2
Grizzly Peak	9D05	8400	26	7S	13E	1961	1,2,3,4,5	1,2
Independence	10D06	8000	22	7S	12E	1940	3,4,5	1
Monument Peak	10D12	9000	22	7S	12E	1961	3,4,5	1
Northeast Entrance	10D07	7400	33	9S	14E	1937	1,2,3,4,5,5½,6	1,6
Porcupine R.S.	10C03	6500	10	4N	10E	1938	3,4,5	1
Sacajawea	10D10	6550	36	2N	6E	1960	3,4,5	1
South Fork Shields	10C08	8100	13	4N	10E	1965	3,4,5	1
Timberline Creek	9D04	8850	13	8S	18E	1961	3,4,5	1
West Rosebud	9D02	7500	9	7S	16E	1960	3,4	4
White Mill	9D08	8700	18	9S	15E	1967	3,4,5	2

SOIL MOISTURE STATIONS

COLUMBIA RIVER BASIN

KOOTENAI RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Baree Trail	15B15M	3800	5	25N	30W	1964	Monthly	2
Murphy Lake R.S.	14A10M	3000	5	34N	25W	1964	Monthly	2
Raven R.S.	15A02M	3050	2	26N	29W	1964	Monthly	2

FLATHEAD RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Desert Mountain	13A02M	5600	24	31N	19W	1956	Monthly	1
Marias Pass	13A05M	5250	34	30N	14W	1950	Monthly	1

CLARK FORK RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Black Pine	13C13M	7100	26	8N	15W	1965	Monthly	1
Lubrecht Forest	13C14M	4100	11	13N	15W	1961	Monthly	8
Seeley Lake	13B19M	4030	21	17N	15W	1963	Monthly	2
Skalkaho Summit	13C03M	7260	30	6N	17W	1964	Monthly	1

BITTERROOT RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Gibbons Pass	13D18M	7100	4	2S	19W	1962	Monthly	1
Lolo Pass	14C05M	5250	11	10N	24W	1963	Monthly	1

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Lakeview	11E13M	6700	23	14S	2W	1962	Monthly	10

MADISON RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Red Bluff	11D04M	4800	7	3S	1E	1961	Monthly	7
West Yellowstone	11E07M	6700	34	13S	5W	1966	Monthly	6

GALLATIN RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Bridger Bowl	10D15M	7250	25	1N	6E	1965	Monthly	1
College Sita	11D02M	4856	18	2S	5E	1956	Monthly	1
Lick Creek	10D13M	6860	10	4S	6E	1965	Monthly	1
Twenty-One Mile	11E06M	7150	1	11S	5E	1963	Monthly	6

MISSOURI RIVER MAIN STEM

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Kings Hill	10C01M	7420	34	13N	8E	1963	Monthly	1
Stemple Pass	12C08M	6350	16	13N	7W	1963	Monthly	1

YELLOWSTONE RIVER

Drainage Basin & Course Name	Number	Elev.	Sec.	Twp.	Range	Record Began	Measuring Dates 1/	Meas. By 2/
Battle Ridge	10D11M	6020	32	2N	7E	1960	Monthly	7
Northeast Entrance	10D07M	7350	33	9S	14E	1962	Monthly	6

LEGEND

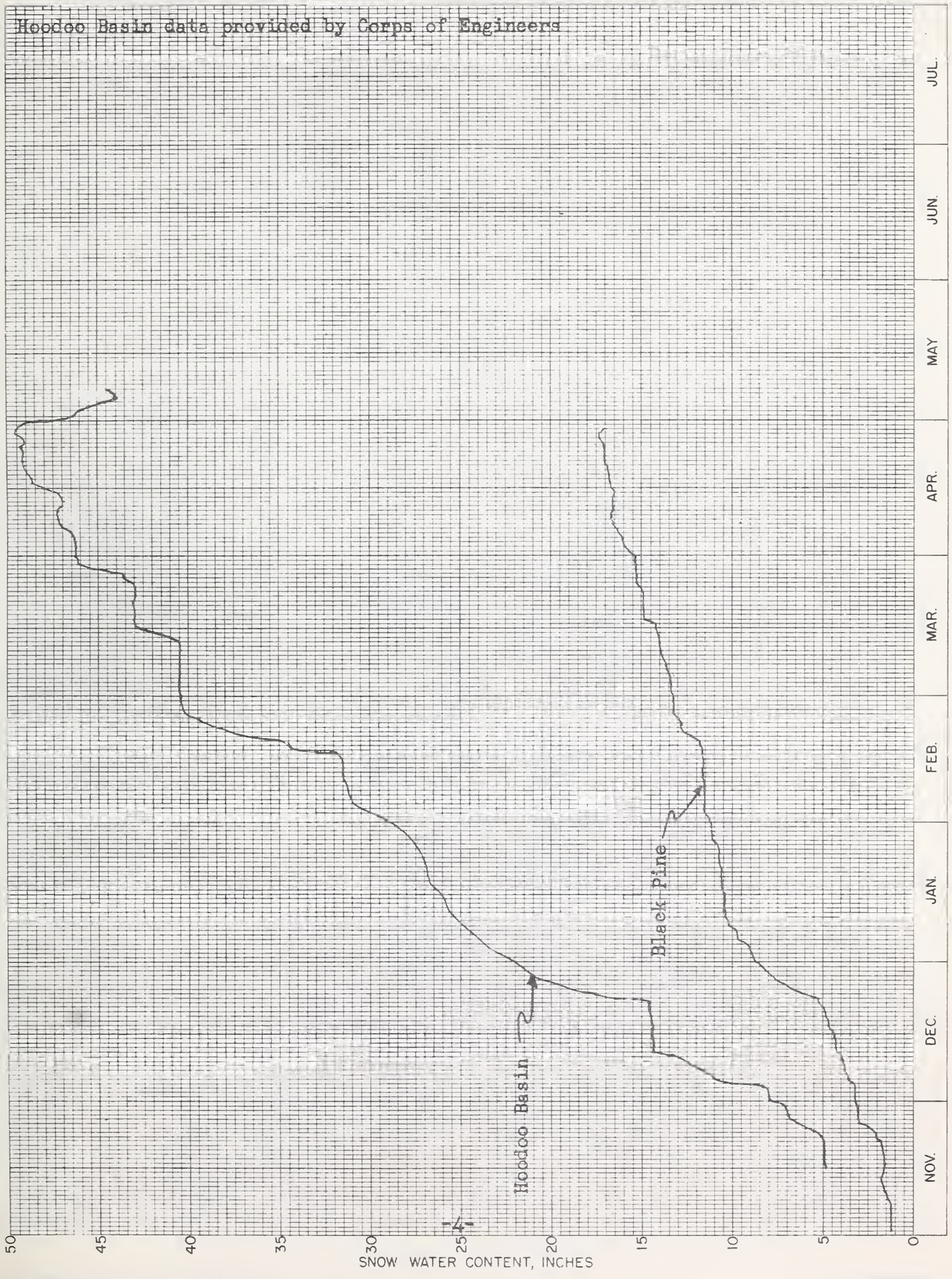
1/ Numerals 1,2,3,4,5,5½,6 refer to January 1, February 1, March 1, April 1, May 1, May 15 and June 1.

2/ Numerals refer to Agency that makes the snow survey as follows:

1. U. S. Soil Conservation Service
2. U. S. Forest Service
3. U. S. Geological Survey
4. Montana Power Company
5. U. S. Indian Service
6. U. S. National Park Service
7. MSU Agricultural Experiment Station
8. U. of M. School of Forestry
9. Department of Energy, Mines & Resources
10. U. S. Bureau of Sport Fisheries & Wildlife
11. Private Cooperator
12. Soil and Water Conservation District

SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: CLARK FORK

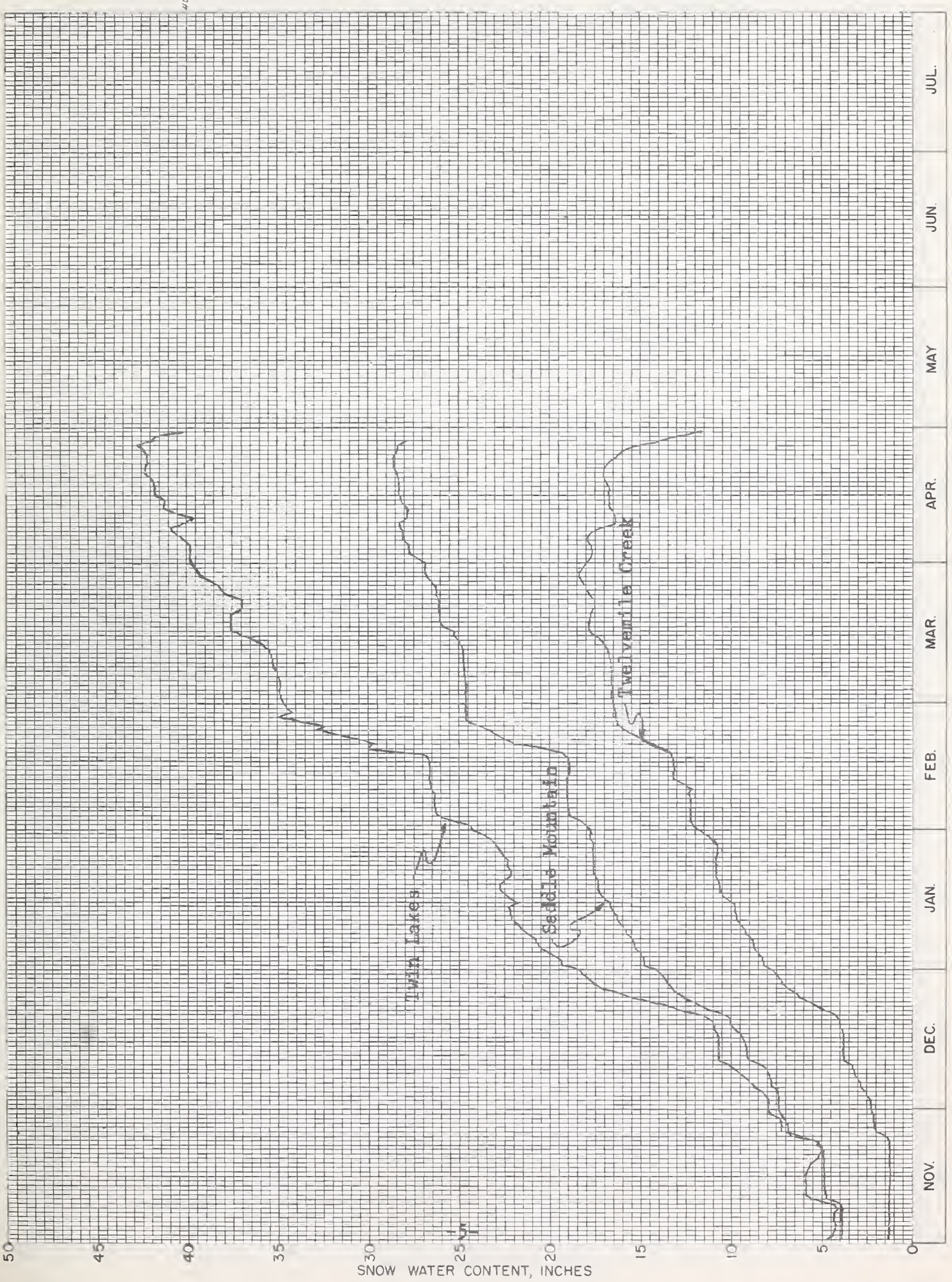


U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-P-18764B-1

SNOW PILLOW DATA
WATER YEAR 1968

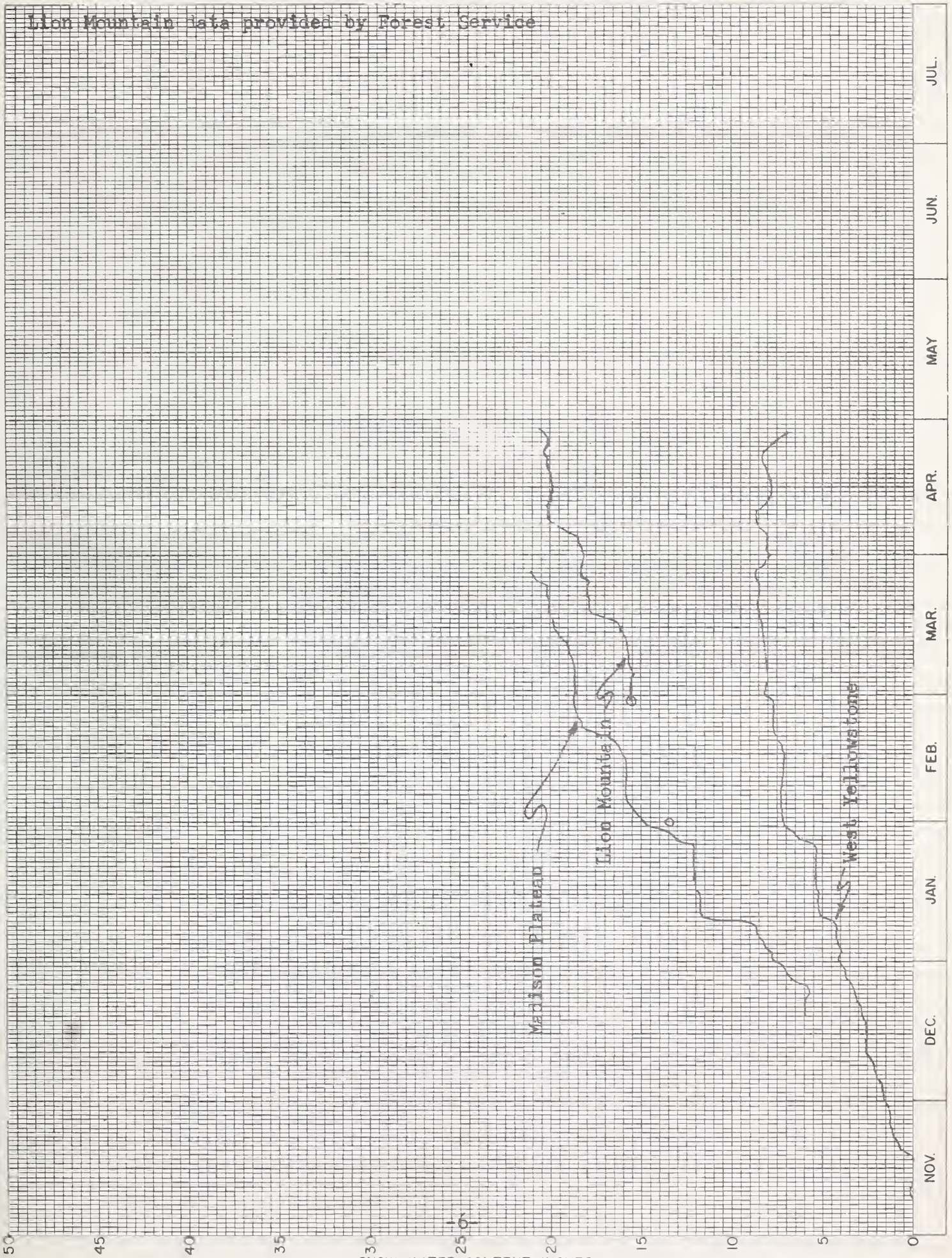
No. _____ Elev. _____ Drainage: BITTERROOT



SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: MADISON

Lion Mountain data provided by Forest Service

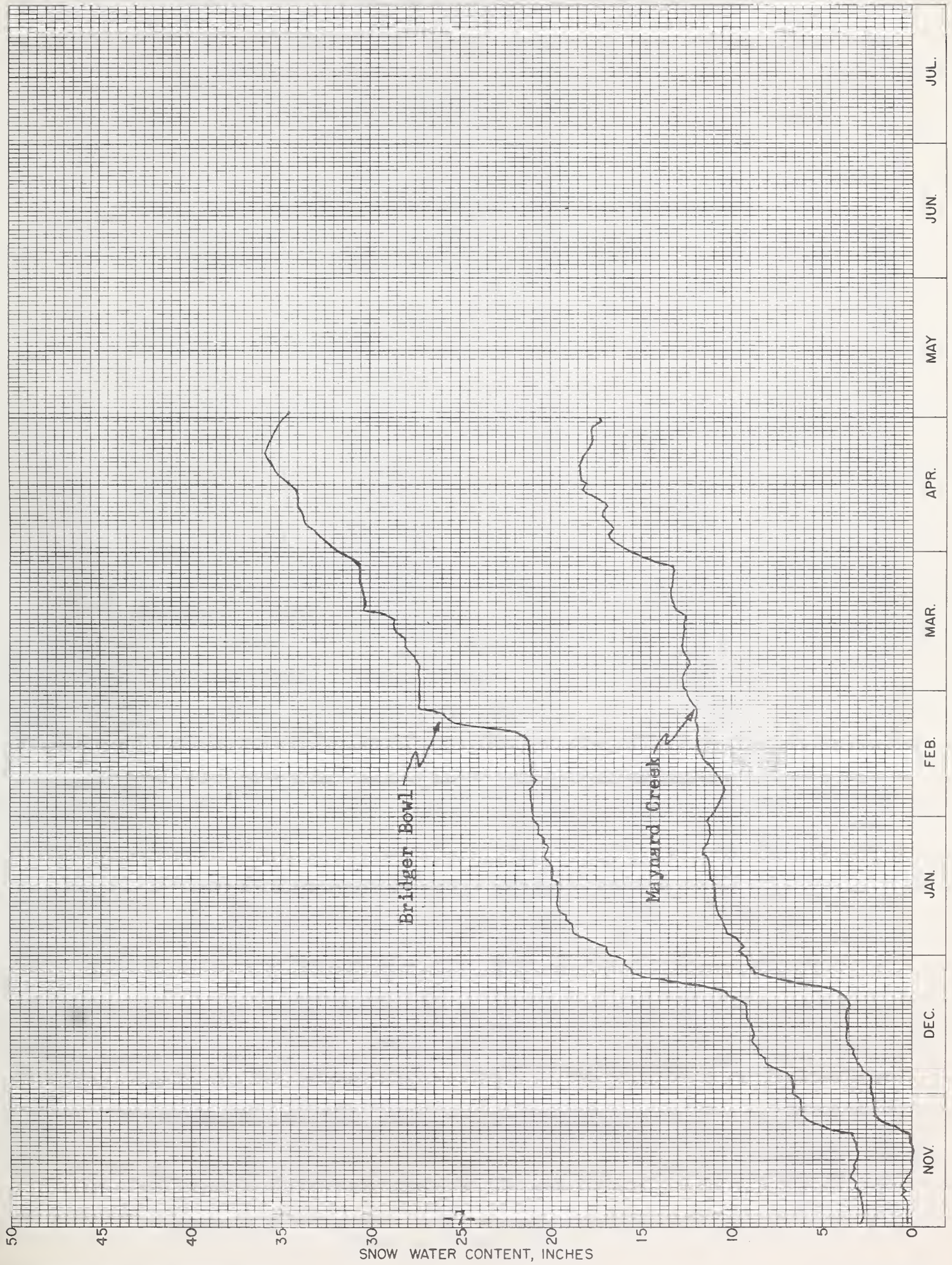


U. S. DEPARTMENT OF AGRICULTURE. SOIL CONSERVATION SERVICE

7-P-18764B-L

SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: GALLATIN

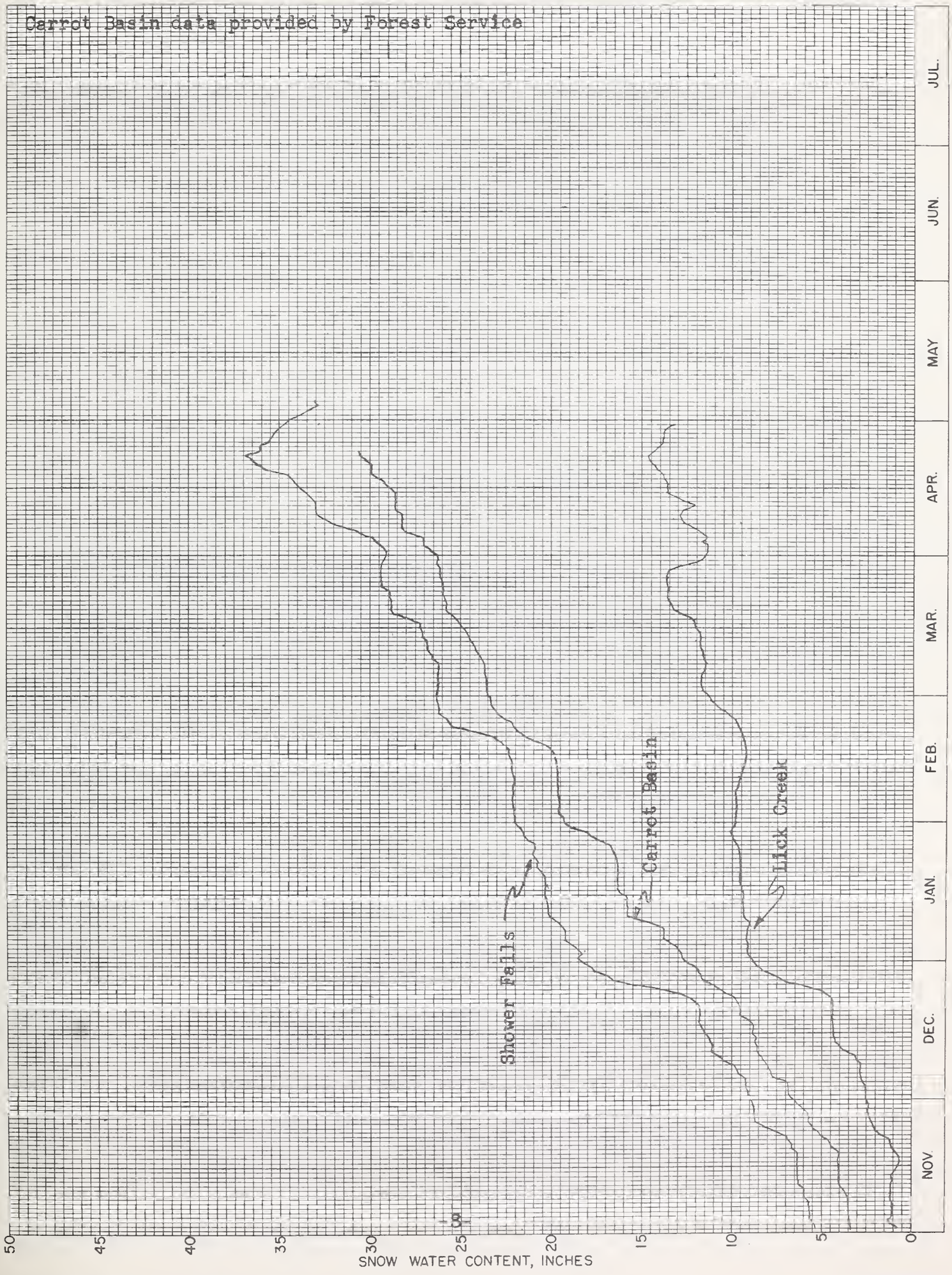


U. S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-P-18764B-L

SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: GALLATIN

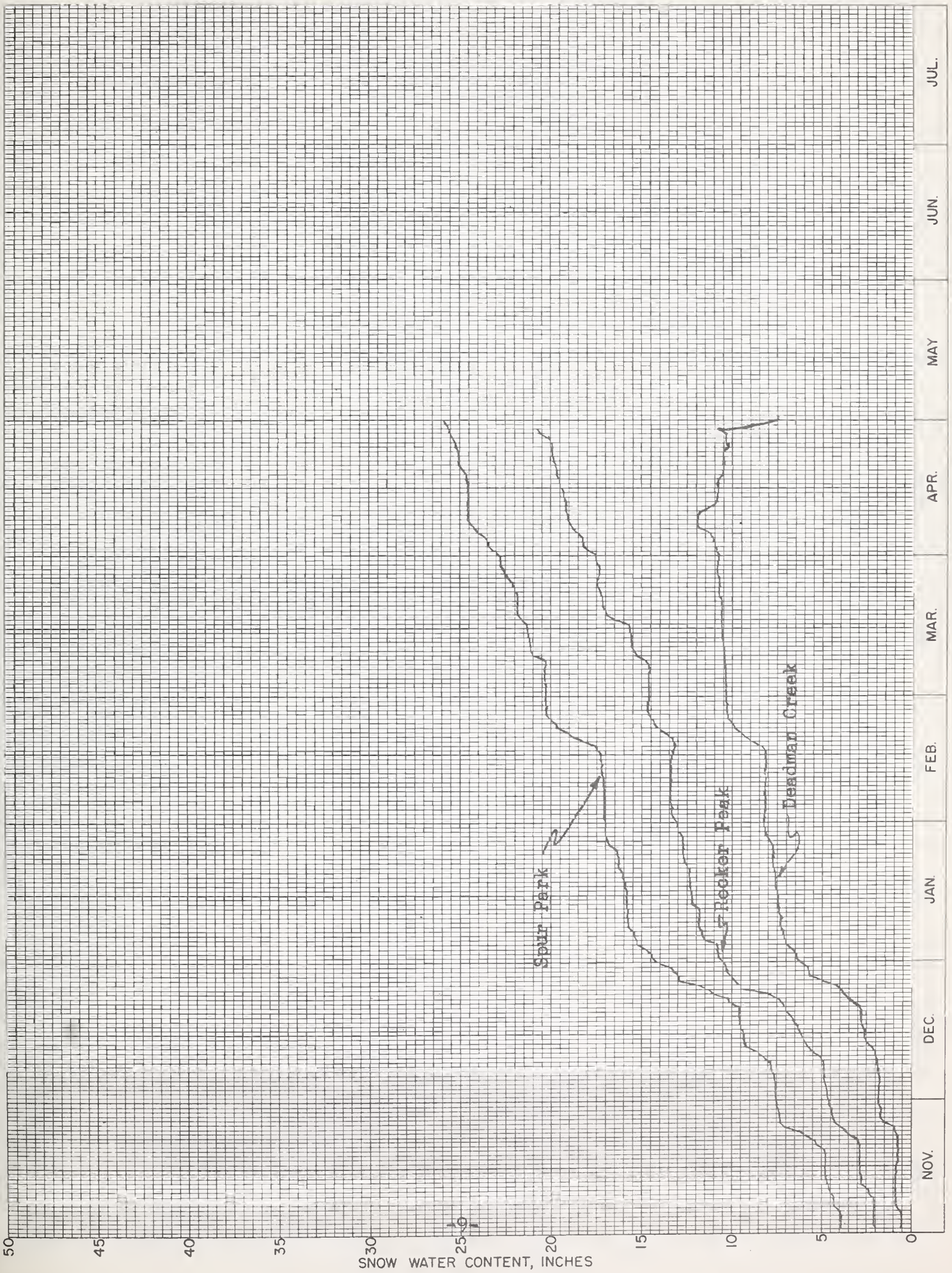


U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-P-18764B-L

SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: JUDITH-JEFFERSON-MISSOURI

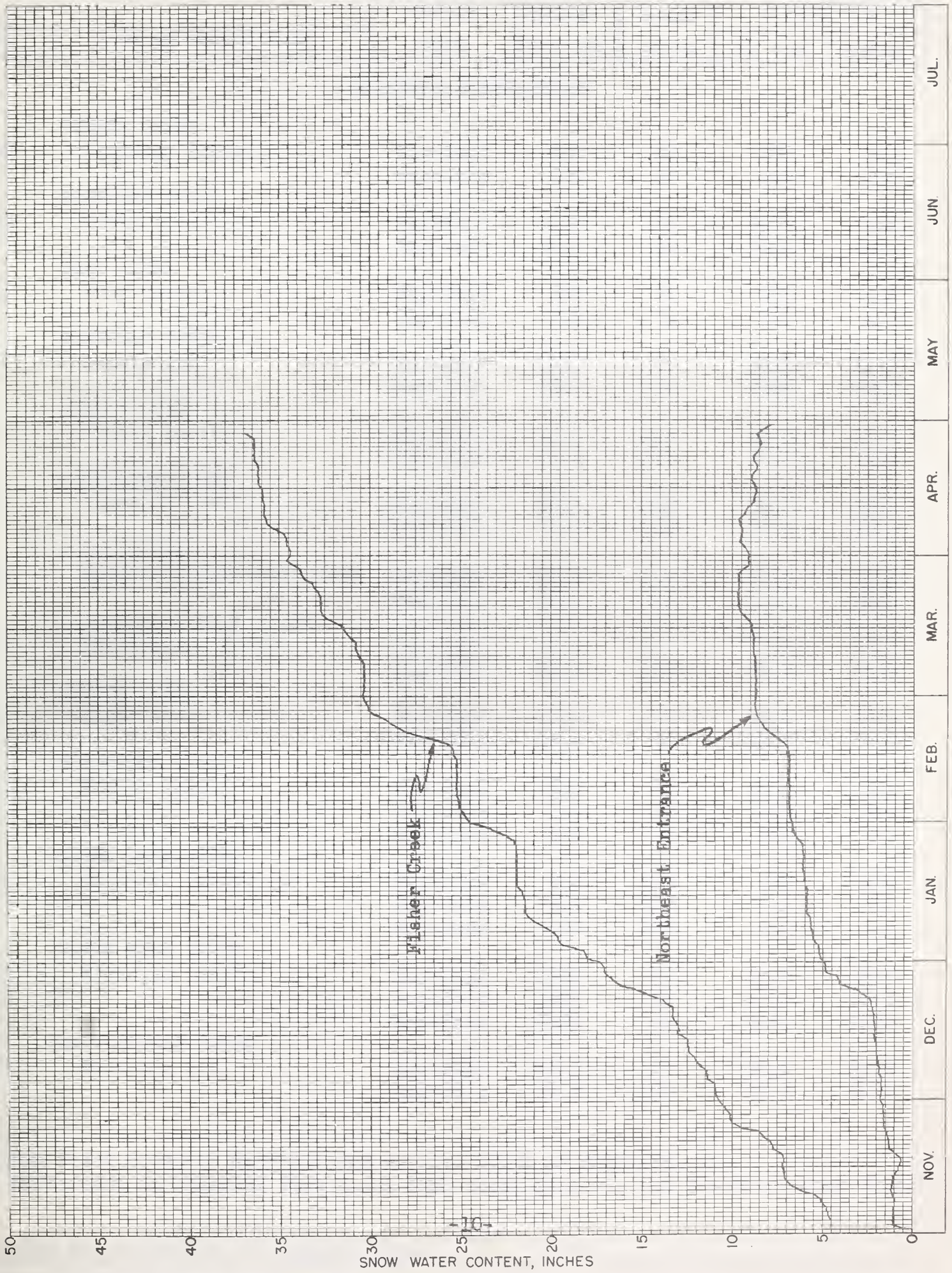


U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-P-18764B-L

SNOW PILLOW DATA
WATER YEAR 1968

No. _____ Elev. _____ Drainage: YELLOWSTONE



U. S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-P-18764B-L

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW	
					LAST YEAR*	AVERAGE
	COLUMBIA RIVER BASIN					
	FISHER CREEK					
3020	Jennings (near)	May-Sept	140	63	282	223
		May-July	130	63	267	206
	KOOTENAI RIVER					
3030	Libby (at)	May-Sept	6100	82	8675	7428
		May-July	5200	82	7694	6342
	YAAK RIVER					
3045	Troy (near)	May-Sept	320	74	526	435
		May-July	305	74	505	413
	KOOTENAI RIVER					
3050	Leonia (at)	May-Sept	6700	80	9606	8416
		May-July	5800	80	8589	7268
	GERMAN GULCH					
3235	Ramsay (near)	May-Sept	13.0	116	18.3	11.2
		May-July	11.8	116	16.9	10.2
	RACETRACK CREEK					
3241	Anaconda (near)	May-Sept	36.5	108	36.3	36.2
		May-July	30.2	108	29.5	28.9
	FLINT CREEK					
3301	Boulder Creek (below)(3)	May-Sept	67.0	104	68.8	64.1
		May-July	52.4	104	53.3	50.2
	MIDDLE FORK ROCK CREEK					
3320	Philipsburg (near)	May-Sept	79.0	107	77.2	73.6
		May-July	71.2	107	70.8	66.3
	NEVADA CREEK					
3355	Finn (near)	May-Sept	17.0	97	25.0	17.5
		May-July	15.5	97	23.7	16.0
	BLACKFOOT RIVER					
3400	Bonner (near)	May-Sept	840	92	1102	914
		May-July	750	92	1006	816
		May-June	635	92	850	690
	CLARK FORK RIVER					
3404	Milltown (above)(4)	May-Sept	740	108	832	686
		May-July	635	108	744	589
		May-June	530	108	630	490
	CLARK FORK RIVER					
3405	Missoula (above)	May-Sept	1580	99	1935	1600
		May-July	1385	99	1750	1405
		May-June	1165	99	1480	1180
	RATTLESNAKE CREEK					
3410	Missoula (at)	May-Sept	62.0	100	66.3	61.8
		May-July	59.7	100	65.3	59.6

(3) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
(4) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	WEST FORK BITTERROOT RIVER					
3425	Conner (near)(5)	May-Sept	150	95	159	157
		May-July	139	95	150	146
	EAST FORK BITTERROOT RIVER					
3434	Conner (near)	May-Sept	150	97	172	155
		May-July	135	97	160	140
	BITTERROOT RIVER					
3440	Darby (near)	May-Sept	490	95	551	518
		May-July	455	95	516	478
		May-June	394	95	452	414
	SKALKAHO CREEK					
3465	Hamilton (near)	May-Sept	51.0	89	56.7	57.4
		May-July	45.0	89	49.8	50.7
	BLODGETT CREEK					
3475	Corvallis (near)	May-Sept	39.5	99	39.5	39.9
		May-July	37.6	99	38.0	37.9
	BITTERROOT RIVER					
3528	Missoula (at)(6)	May-Sept	1260	91	1538	1384
		May-July	1160	91	1456	1277
		May-June	990	91	1259	1084
	CLARK FORK RIVER					
3530	Missoula (below)	May-Sept	2840	95	3473	2984
		May-July	2545	95	3206	2681
		May-June	2155	95	2739	2263
	ST. REGIS RIVER					
3540	St. Regis (near)	May-Sept	200	72	307	278
		May-July	188	72	292	261
	CLARK FORK RIVER					
3545	St. Regis (at)	May-Sept	3600	89	4531	4036
		May-July	3130	89	4170	3624
		May-June	3730	89	3544	3066
	NORTH FORK FLATHEAD RIVER					
3555	Columbia Falls (near)	May-Sept	1400	76	2048	1833
		May-July	1250	76	1886	1650
		May-June	1040	76	1558	1371
	MIDDLE FORK FLATHEAD RIVER					
3585	West Glacier (near)	May-Sept	1480	85	2024	1736
		May-July	1360	85	1887	1598
		May-June	1130	85	1542	1334
	SOUTH FORK FLATHEAD RIVER					
3625	Columbia Falls (near)(7)	May-Sept	1875	89	2478	2103
		May-July	1770	89	2361	1985
		May-June	1520	89	2042	1710

(5) Adjusted for storage in Painted Rocks Reservoir.
(6) Difference in observed flow Clark Fork above and below Missoula.
(7) Adjusted for storage in Hungry Horse Reservoir.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	FLATHEAD RIVER					
3630	Columbia Falls (at)(7)	May-Sept	4850	83	6704	5820
		May-July	4450	83	6287	5351
		May-June	3740	83	5271	4507
	SWAN RIVER					
3700	Big Fork (near)	May-Sept	520	87	628	599
		May-July	450	87	557	520
		May-June	355	87	431	408
	FLATHEAD RIVER					
3720	Polson (near)(8)	May-Sept	5570	80	7721	6914
		May-July	5100	80	7288	6365
		May-June	4280	80	6111	5324
	CLARK FORK RIVER					
3890	Plains (near)(8)	May-Sept	9370	83	12619	11286
		May-July	8500	83	11753	10230
		May-June	7100	83	9867	8570
	THOMPSON RIVER					
3895	Thompson Falls (near)	May-Sept	170	68	298	249
		May-July	150	68	267	220
	PROSPECT CREEK					
3907	Thompson Falls (at)	May-Sept	88.0	69		127
		May-July	81.0	69		117
	CLARK FORK RIVER					
3920	Whitehorse Rapids (at)(9)	May-Sept	10220	81		12580
		May-July	9250	81		11369
		May-June	7700	81		9499

(7) Adjusted for storage in Hungry Horse Reservoir.
(8) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(9) Adjusted for storage in Hungry Horse, Flathead Lake and Noxon Rapids Reservoirs.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER BASIN					
	RED ROCK RIVER					
0125	Monida (near)(11)	May-Sept	60.5	110	97.9	54.9
		May-July	55.3	110	88.1	50.2
	BEAVERHEAD RIVER					
0154	Armstead (near)(11)(12)	May-Sept	70.5	94	121	75.0
		May-July	53.5	94	119	57.0
	RUBY RIVER					
0195	Alder (near)	May-Sept	83.0	119	90.4	69.9
		May-July	67.2	119	77.1	56.7
	BIG HOLE RIVER					
0255	Melrose (near)	May-Sept	680	109	898	625
		May-July	620	109	852	576
	BIRCH CREEK					
0260	Glen (near)	May-Sept	13.1	113	18.1	11.6
		May-July	11.4	113	15.4	10.1
	BOULDER RIVER					
0330	Boulder (near)	May-Sept	83.5	126	113	66.4
		May-July	79.5	126	95.3	63.2
	JEFFERSON RIVER					
0345	Sappington (at)(12)	May-Sept	958	116	1222	824
		May-July	840	116	1168	725
	WILLOW CREEK					
0350	Harrison (near)	May-Sept	16.5	139	28.2	11.9
		May-July	15.0	139	27.3	10.8
	MADISON RIVER					
0375	West Yellowstone (near)	May-Sept	185	103	243	179
		May-July	133	103	183	129
	MADISON RIVER					
0385	Grayling (near)(13)	May-Sept	405	111	544	364
		May-July	305	111	430	274
	MADISON RIVER					
0410	McAllister (near)(14)	May-Sept	730	117	803	623
		May-July	563	117	557	481
	GALLATIN RIVER					
0435	Gateway (near)	May-Sept	580	139	553	418
		May-July	490	139	475	353
	BRIDGER CREEK					
0485	Bozeman (near)	May-Sept	27.4	166	29.2	16.5
		May-July	25.4	166	27.5	15.3

(11) Adjusted for storage in Lima Reservoir.
(12) Adjusted for storage in Clark Canyon Reservoir.
(13) Adjusted for storage in Hebgen Lake.
(14) Adjusted for storage in Hebgen and Ennis Lakes.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	HYALITE CREEK					
0500	Bozeman (near)(15)	May-Sept	49.5	152	43.8	32.6
		May-July	42.2	152	38.6	27.8
	GALLATIN RIVER					
0525	Logan (at)	May-Sept	615	154	585	400
		May-July	508	154	519	330
	MISSOURI RIVER					
0545	Toston (at)(16)	May-Sept	2200	121	2748	1816
		May-July	1850	121	2499	1530
	PRICKLY PEAR CREEK					
0615	Clancy (near)	May-Sept	23.5	124		19.0
		May-July	20.1	124		16.2
	DEARBORN RIVER					
0735	Craig (near)	May-Sept	110	89	202	124
		May-July	103	89	194	116
	SHEEP CREEK					
0770	W. Sulphur Springs (near)	May-Sept	22.7	147	27.4	15.4
		May-July	19.4	149	24.0	13.2
	SMITH RIVER					
0775	Eden (near)	May-Sept	235	175	333	134
		May-July	214	175	305	122
	SUN RIVER					
0786	Gibson Dam (at)(17)	May-Sept	460	80	731	573
		May-July	418	80	680	522
	BELT CREEK					
0905	Monarch (near)	May-Sept	130	150	161	86.7
		May-July	117	150	149	78.9
	MISSOURI RIVER					
0908	Fort Benton (at)(18)	May-Sept	3360	117	4594	2861
		May-July	2780	117	4048	2367
	TWO MEDICINE CREEK					
0920	Browning (near)(19)	May-Sept	190	79	312	241
		May-July	180	79	300	229
	BADGER CREEK					
0925	Browning (near)	May-Sept	102	77	151	132
		May-July	86.3	77	133	112
	CUT BANK CREEK					
0990	Cut Bank (at)	May-Sept	81.5	71		114
		May-July	73.6	71		103

(15) Adjusted for storage in Middle Creek Reservoir.
(16) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
(17) Adjusted for storage in Gibson Reservoir and diversions.
(18) Adjusted for storage in Canyon Ferry Reservoir.
(19) Adjusted for storage in Two Medicine Res. & diversions into Two Medicine Canal.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MARIAS RIVER					
0995	Shelby (near)(20)	May-Sept	432	77	757	564
		May-July	406	77	749	530
	MISSOURI RIVER					
1095	Virgelle (at)(21)	May-Sept	3880	109	5532	3557
		May-July	3270	109	4692	2999
	S. FORK JUDITH RIVER					
1098	Utica (near)	May-Sept	15.6	153	27.6	10.2
		May-July	13.9	153	26.2	9.1
	MISSOURI RIVER					
1150	Zortman (near)(21)	May-Sept	4260	109	6162	3885
		May-July	3560	109	5244	3254
	N. FORK MUSSELSHELL RIVER					
1155	Delpine (near)	May-Sept	6.4	128	9.5	5.0
		May-July	5.1	128	8.2	4.0
	S. FORK MUSSELSHELL RIVER					
1185	Martinsdale (above)	May-Sept	55.0	128	84.8	42.8
		May-July	52.3	128	81.7	40.7
	MISSOURI RIVER					
1320	Ft. Peck Dam (below)(22)	May-Sept	3960	106	6109	3728
		May-July	3400	106	5276	3200
	MILK RIVER					
1350	Eastern Crossing (at)	May-Sept	190	92	281	206
	MISSOURI RIVER					
1770	Wolf Point (near)(22)	May-Sept	4050	103	6446	3942
		May-July	3470	103	5641	3380
	MISSOURI RIVER					
3300	Williston, N.D. (near)(29)	May-Sept	9800	105		9299
		May-July	8500	105		8068
	SASKATCHEWAN RIVER BASIN					
	ST. MARY RIVER					
0175	Babb (near)(30)	May-Sept	420	90	521	468
		May-July	360	90	460	401

(20) Adjusted for storage in Two Medicine, Four Horns, Lake Frances & Swift Reservoirs.
(21) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.
(22) Adjusted for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.
(29) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs.
(30) Adjusted for storage in Lake Sherburne.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY FORECASTS

AS OF MAY 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	YELLOWSTONE RIVER BASIN					
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	May-Sept	1820	101	2309	1792
		May-July	1500	101	1942	1487
	YELLOWSTONE RIVER					
1925	Livingston (near)	May-Sept	2100	104		2019
		May-July	1730	104		1662
	SHIELDS RIVER					
1935	Clyde Park (at)	May-Sept	110	134	128	82.1
		May-July	101	134	121	75.3
	BOULDER RIVER					
2000	Big Timber (at)	May-Sept	395	120	456	330
		May-July	370	120	433	309
	STILLWATER RIVER					
2050	Absarokee (near)(25)	May-Sept	590	111	793	531
		May-July	495	111	688	444
	CLARKS FORK RIVER					
2075	Chance (at)	May-Sept	600	107	771	560
		May-July	540	107	693	504
	CLARKS FORK RIVER					
2085	Edgar (at)	May-Sept	610	104	816	578
		May-July	527	104	736	507
	ROCK CREEK					
2095	Red Lodge (near)	May-Sept	113	112	135	101
		May-July	86.4	112	104	77.2
	YELLOWSTONE RIVER					
2145	Billings (at)	May-Sept	4080	111	5416	3675
		May-July	3470	111	4756	3124
	BIG HORN RIVER					
2870	St. Xavier (near)(26)	May-Sept	1350	88		1532
		May-July	1240	88		1422
	LITTLE BIG HORN RIVER					
2920	Lodgegrass (near)(28)	May-Sept	115	131		
		May-July	99	131		
	YELLOWSTONE RIVER					
3090	Miles City (at)(27)	May-Sept	5600	105	8697	5307
		May-July	4850	105	7786	4609
	YELLOWSTONE RIVER					
3295	Sidney (near)(27)	May-Sept	5580	106	9236	5245
		May-July	4920	106	8317	4625

(25) Adjusted for storage in Mystic Lake.
(26) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail Reservoirs.
(27) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.
(28) Sum Little Big Horn below Pass Creek and Lodgegrass Creek near Wyola.

* PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

SNOW SURVEY DATA

AS OF MAY 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
COLUMBIA RIVER BASIN							
KOOTENAI RIVER							
L5B11	Baree Creek	5500	5/1	92	40.4	65.6	49.1
L5B16	Baree Midway	4600	5/1	63	27.2	51.2	-
L5B15	Baree Trail	3800	5/1	0	0.0	4.2	-
L4A04	Brush Creek	5000	5/1	20	8.3	15.0	10.7*
BC 10	Fernie	3500	4/29	0	0.0	6.3	2.8
BC 12A	Field	4200	4/27	11	3.6	5.9	0.6*
BC 11	Glacier	4100	4/27	77	32.5	45.2	25.9
L4A11	Graves Creek	4300	4/30	33	12.3	24.2	-
BC 43	Gray Creek	5100	4/27	64	20.3	27.5	20.2
BC 33	Kicking Horse	5400	4/27	52	15.4	21.3	12.2
BC 20B	Kimberley	3800	4/27	0	0.0	1.9	1.2*
BC 32	Marble Canyon	5000	5/1	42	11.3	18.1	13.4
BC 10B	Morrissey Ridge	6100	4/30	67	27.2	39.0	-
BC 10A	New Fernie	4100	4/29	22	8.0	18.0	6.0*
L5A01	Red Mountain	6000	4/29	48	18.4	27.4	20.9
BC 8A	Sinclair Pass	4500	4/27	19	6.0	7.0	2.2*
BC 20A	Sullivan Mine	5100	4/30	34	11.1	19.8	12.5
BC 41	Upper Elk River	4400	4/28	0	0.0	4.1	2.5*
L4A07	Weasel Divide	5450	4/30	85	32.9	50.8	35.7
FLATHEAD RIVER							
4B03	Bassoo Peak	5150	4/29	16	6.2	13.8	9.7*
3A11	Beaver Lake	5900	4/29	55	21.8	36.4	24.5*
3B03	Big Creek	6750	4/30	111	47.6	61.4	50.5*
3A17	Camp Misery	6400	5/2	116	43.9	66.1	52.0*
3A02	Desert Mountain	5600	5/3	28	12.3	19.7	14.6
3B04	Fatty Creek	5500	4/30	54	22.2	33.7	22.5*
4A09	Griffin Creek Divide	5150	4/29	17	6.4	15.8	9.8*
3B12	Gunsight Lake	6300	4/30	94	41.3	58.5	44.0*
4A03	Hell Roaring Divide	5770	5/3	60	26.0	45.4	31.5
3B13	Holbrook	4530	4/30	0	0.0	9.8	1.4*
4A05	Logan Creek	4300	5/1	0	0.0	8.4	3.4*
3A05	Marias Pass	5250	4/25	33	13.2	25.9	18.0
3A16	Mineral Creek	4000	5/1	14	7.1	25.2	17.7*
3B07	North Fork Jocko	6330	5/1	101	43.8	59.0	48.0*
3B02	Spotted Bear Mountain	7000	4/30	23	9.4	21.6	12.4*
3B01	Trinkus Lake	6100	4/30	97	45.4	61.8	45.4*
L3B11	Twin Creeks	3580	4/30	0	0.0	7.2	1.4*
L3B05	Upper Holland Lake	6200	4/30	92	39.1	50.6	39.0*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
	MISSOURI RIVER BASIN						
BEAVERHEAD RIVER							
13D10	Bloody Dick	7600	5/2	28	9.4	16.0	12.0*
13E22	Dad Creek Lake	8400				18.6	14.5*
13D15	Elk Horn Springs	7800	4/30	30	8.7	11.4	8.4*
13D09	Gold Stone	8100	5/2	43	15.6	22.0	17.0*
11E04	Lakeview Canyon	6930	5/3	31	12.3	19.6	9.5*
11E03	Lakeview Ridge	7400	5/3	24	9.4	18.8	7.3*
12E01	White Pine Ridge	8850				7.5	7.2*
RUBY RIVER							
11D14	Branham Lakes	8850	4/26	95	35.8	34.5	-
11D08	Clover Meadow	8600				23.6	17.3*
12E07	Divide	7900				14.2	9.4*
11D15	Middle Mill Creek	7850	4/26	51	18.4	17.0	-
12E06	Notch	8500				20.5	15.0*
12D05	Smuggler Mine	6960	4/26	32	11.0	11.0	-
BIG HOLE RIVER							
13D20	Abundance Lake	8800				24.3	23.6*
13D19	Darkhorse Lake	8600				32.4	28.4*
13D21	Foolhen	8280				23.9	20.8*
13D08	Jahnke Creek	7340	5/2	13	4.1	12.4	-
13D24	Slag-A-Melt Lake	8750				-	-
JEFFERSON RIVER							
12C07	Berry Meadow	7300	4/29	27	8.6	14.2	6.7*
12C09	Copper Mountain	7700	4/30	42	14.3	18.6	-
12D01	Pipestone Pass	7200	4/30	17	4.8	13.8	4.4
12C11	Rocker Peak	8000	4/29	56	20.2	-	-
12C11	Rocker Peak Pillow	8000	4/29	SP	20.7	-	-

SP - Snow pillow observation - water content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
NO.	NAME	ELEVATION				LAST YEAR	AVERAGE
MADISON RIVER							
11E09	Big Springs	6500	4/30	27	12.7	25.5	-
11D07	Call Road	8050				16.0	12.0*
11D12	Four Mile	6900	5/1	19	7.4	11.3	7.5*
11E05	Hebgen Dam	6550	4/27	24	10.4	11.5	4.8
11E10	Island Park	6315	4/30	14	5.5	17.3	-
11E22	Lake Creek	6100	4/24	16	5.6	6.4	-
11E28	Lion Mountain	8760	Not Measured			24.0	-
11E28	Lion Mountain Pillow	8760	4/28	SP	20.5	21.5	-
11D11	Lower Twin	7900	5/1	62	25.6	26.8	22.5*
11E31	Madison Plateau	7750	4/29	46	18.0	-	-
11E31	Madison Plateau Pillow	7750	4/29	SP	23.8	-	-
11E23	Meridian Creek	7000	4/26	31	9.5	12.2	-
10E02	Norris Basin	7500	4/30	25	10.7	14.7	5.5*
11D03	North Meadow	7500	5/1	31	9.8	14.0	-
11E21	Potomageton Park	7150	4/30	24	10.7	17.2	-
11E20	Sentinel Creek	8300	4/30	66	27.7	33.8	-
11E24	Tepee Creek	8000	4/26	49	17.7	21.9	-
11E08	Valley View	6500	4/30	28	12.1	25.6	-
11E07	West Yellowstone	6700	4/28	17	7.0	15.6	5.6
11E07	West Yellowstone Pillow	6700	4/28	SP	6.7	13.4	-
11E30	Whiskey Creek	6800	4/29	36	17.2	26.2	-
GALLATIN RIVER							
10D14	Arch Falls	7350	4/30	54	20.3	18.7	12.0*
11D09	Bear Basin	8150	4/29	73	30.2	27.4	22.6*
10D15	Bridger Bowl	7250	5/1	94	41.2	37.2	27.5*
10D15	Bridger Bowl Pillow	7250	5/1	SP	34.5	35.8	-
11E29	Carrot Basin	9000	4/25	100	41.5	51.8	-
11E29	Carrot Basin Pillow	9000	4/25	SP	30.8	-	-
10D04	Devil's Slide	8100	4/30	88	35.2	30.2	24.9
10D03	Hood Meadow	6600	5/1	32	12.3	13.4	6.6
10D13	Lick Creek	6860	4/30	39	14.2	13.5	-
10D13	Lick Creek Pillow	6860	4/30	SP	13.3	14.9	-
11D10	Little Park	7400	4/29	58	22.8	20.8	16.0*
10D18	Maynard Creek	6210	5/1	58	25.5	20.2	-
10D18	Maynard Creek Pillow	6210	5/1	SP	18.1	15.9	-
10D16	Shower Falls	8100	4/30	92	38.5	33.2	-
10D16	Shower Falls Pillow	8100	4/30	SP	32.7	31.2	-
11E06	Twenty-One Mile	7150	4/28	44	17.4	25.6	14.9

SP - Snow pillow observation - water content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE
MISSOURI RIVER (Main Stem)							
11C01	Boulder Mountain	7950	4/29	61	22.2	29.3	16.1*
12C05	Chessman Reservoir	6200	5/1	8	2.7	7.8	2.9
10C09	Deadman Creek	6450	5/1	22	8.4	18.8	-
10C09	Deadman Creek Pillow	6450	5/1	SP	7.4	-	-
10C07	Elk Peak	8000	4/30	54	20.4	28.7	16.5*
10C02	Grasshopper	7000	4/30	20	6.6	11.1	6.0*
10C01	Kings Hill	7500	4/29	49	17.4	22.9	13.8
9A01	Rocky Boy	5200	4/30	0	0.0	-	-
9A01	Rocky Boy Pillow	5200	4/30	SP	0.0	-	-
12C01	Stemple Pass	6600	4/29	34	10.4	16.0	9.8
12C02	Ten Mile Lower	6600	5/1	14	4.5	11.2	4.1
12C03	Ten Mile Middle	6800	4/30	37	12.2	16.4	9.9
12C04	Ten Mile Upper	8000	4/30	48	16.8	19.9	14.2
SUN-TETON-MARIAS RIVERS							
13A15	Badger Pass	6900	4/30	100	45.1	50.4	40.0*
12B06	Cabin Creek	5200	4/29	2	0.9	13.6	1.0*
12B09	Five-Bull	5700	4/30	0	0.0	13.8	6.0*
12A01	Freight Creek	6000	4/30	25	9.5	26.2	17.8*
12B07	Goat Mountain	7000	4/30	25	8.0	17.4	10.3*
12B04	Wrong Creek	5700	4/30	17	7.4	20.9	12.2*
12B03	Wrong Ridge	6800	5/1	41	14.7	30.1	23.6*
JUDITH RIVER							
9C02	Avalanche	7100	5/1	76	32.6	33.6	-
9C01	Crystal Lake	6100	5/1	40	16.4	21.4	-
9C03	Rock Creek	5600	5/1	22	9.4	13.9	-
10C06	Spur Park	8000	5/1	61	23.4	36.3	20.0*
10C06	Spur Park Pillow	8000	5/1	SP	24.4	34.6	-
ST. MARY RIVER							
13A18	Hudson Bay Divide	5800	4/29	48	19.4	29.4	21.0*
13A03	Iceberg Lake No. 3	5600	5/1	59	30.3	51.0	29.6
13A14	Josephine Lower No. 9	4900	4/30	28	11.9	32.8	17.9*
13A07	Mt. Allen No. 7	5700	4/30	98	46.7	72.9	49.2
13A06	Piegan Pass No. 6	5500	4/30	77	36.9	59.4	41.3
13A08	Ptarmigan No. 8	5800	5/1	86	39.6	59.8	40.3

SP - Snow pillow observation - water content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF MAY 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
UPPER YELLOWSTONE RIVER							
10C05	Bald Ridge	7500	5/2	40	14.9	17.7	12.5*
9D01	Camp Senia	7890	4/26	41	10.7	11.2	9.3*
10E03	Canyon	7750	4/29	42	14.5	24.1	13.5*
9D07	Cooke Station	8150	4/28	56	20.6	28.6	-
10E06	East Entrance	7000	5/1	0	0.0	5.0	3.6*
9D06	Fisher Creek	9100	4/28	96	40.6	54.9	-
9D06	Fisher Creek Pillow	9100	4/28	SP	37.0	52.3	-
9D05	Grizzly Peak	8400	4/30	79	23.6	22.8	18.2*
10D06	Independence	7850	5/3	43	18.4	26.7	19.0*
10E04	Lake Camp	7850	4/30	23	6.5	13.5	7.2*
9E01	Lodgepole	8200	4/30	35	11.2	16.7	10.7*
10E06	Lupine Creek	7300	4/28	36	12.7	16.6	7.7*
10D12	Monument Peak	8800	5/3	75	32.2	37.8	26.4*
10D07	Northeast Entrance	7400	4/30	21	7.4	13.2	6.2
10D07	Northeast Entrance Pillow	7350	4/30	SP	7.9	12.4	-
10C03	Porcupine R. S.	6500	5/2	29	9.8	11.3	-
10D10	Sacajawea	6550	5/1	38	16.9	17.9	12.0*
10C08	South Fork Shields	8100	5/2	73	29.4	33.6	-
10E05	Sylvan Pass	7100	5/1	24	9.1	17.0	10.6*
9D04	Timberline Creek	8850	4/26	63	20.0	23.8	16.7*
9D08	White Mill	8700	4/28	74	29.9	40.2	-

SP - Snow pillow observation - water content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SOIL MOISTURE DATA

AS OF MAY 1, 1968

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
			COLUMBIA RIVER BASIN					
Kootenai								
15B15M	Baree Trail	3800	48	7.5	5/1	6.4	6.6	-
14A10M	Murphy Lake R. S.	3000	48	22.6	5/1	20.1	22.5	-
15A02M	Raven R. S.	3050	48	23.0	5/1	21.7	22.2	-
Flathead								
13A02M	Desert Mountain	5600	54	8.4	5/3	9.7	8.2	8.4
13A05M	Marias Pass	5250	54	6.5	5/1	5.9	5.8	6.0
Clark Fork								
13C13M	Black Pine	7100	48	10.0	4/30	7.6	7.2	-
13B19M	Seeley Lake R. S.	4030	48	11.9			11.8	-
13C03M	Skalkaho Summit	7260	48	10.8	5/2	9.7	9.9	-
Bitterroot								
13D18M	Gibbons Pass	7100	48	7.1	4/29	6.0	4.9	6.3
14C05M	Lolo Pass	5250	48	10.6	5/2	10.1	3.8	-
			MISSOURI RIVER BASIN					
Beaverhead								
11E13M	Lakeview	6700	48	15.3	5/1	13.9	9.6	14.1
Madison								
10D04M	Red Bluff	4800	40	4.7	5/2	2.2	2.2	2.5
11E07M	West Yellowstone	6700	48	6.5	4/28	2.9	3.6	-
Gallatin								
10D15M	Bridger Bowl	7250	48	17.0	5/1	16.0	15.9	-
11D02M	College Site	4856	54	14.5	5/3	12.8	14.9	12.5
10D13M	Lick Creek	6860	48	18.8	5/1	18.2	18.9	-
11E06M	Twenty-One Mile	7150	48	10.0	4/28	4.5	2.9	-
Missouri Main Stem								
10C01M	Kings Hill	7420	48	11.8	5/1	6.9	4.7	-
13C08M	Stemple Pass	6350	48	5.9	4/29	5.3	4.2	-
Yellowstone								
10D11M	Battle Ridge	6020	48	17.6	5/1	14.8	15.0	15.4
10D07M	Northeast Entrance	7350	48	9.4	4/30	6.4	7.4	-

**AVERAGE FOR PERIOD OF RECORD

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1968

(1000 Acre Feet)

BASIN	RESERVOIR	USEABLE CAPACITY	USEABLE STORAGE		
			THIS YEAR	LAST YEAR	AVERAGE
COLUMBIA RIVER BASIN					
Flathead	Hungry Horse	3,428.0	2,304.0	1,333.0	2,097.0**
	Flathead Lake	1,791.0	707.4	816.1	968.0
	Camas (Sum of 4)	45.2	27.6	31.0	38.1
	Mission Valley (Sum of 8)	100.3	44.6	25.6	45.1
Clark Fork	Georgetown Lake	31.0	23.8	18.9	21.2
	Noxon Rapids	334.6	101.1	39.7	-
Bitterroot	Como	34.9	22.1	10.7	17.9
	Painted Rocks	31.7	26.1	16.5	22.0**
MISSOURI RIVER BASIN					
Beaverhead	Clark Canyon	328.9	157.6	120.1	-
	Lima	84.0	57.6	25.4	48.3
Ruby	Ruby	38.8		35.1	31.7**
Madison	Hebgen Lake	377.5	242.5	221.4	174.8
	Ennis Lake	41.0	38.7	38.7	34.9
Gallatin	Middle Creek	8.0	3.5	3.9	4.6**
Missouri	Canyon Ferry	2,043.0	1,345.0	1,026.0	1,577.4**
	Hauser & Helena	61.9	62.5	61.3	49.9
	Lake Helena	10.4	10.7	10.2	6.6
	Holter Lake	81.9	79.4	53.4	61.8
	Smith River	10.7	11.4	7.5	8.1**
	Ackley Lake	5.8			3.6
	Durand	7.0	7.0	5.8	5.9
	Martinsdale	23.1	10.3	9.2	10.6
	Deadman's Basin	72.2	58.2	55.9	45.1**
	Fort Peck	19,410.0	16,410.0	15,860.0	11,128.6
Sun	Gibson	105.0	35.9	29.0	65.7
	Willow Creek	32.3	19.4	17.2	23.4
	Pishkun	32.0	26.1	15.7	22.5
Marias	Lower Two Medicine				1.4
	Four Horns	19.2		11.8	10.9
	Swift	30.0	17.0	-	26.7
	Lake Frances	112.0	73.2	76.4	96.0
	Tiber	1,347.0	429.8	436.0	656.3**
Milk	Fresno	127.2	100.6	125.8	108.1
	Nelson	66.8	49.4	58.0	39.8
	Lake Sherburne	66.1	11.5	24.9	24.8
Yellowstone	Mystic Lake	20.8	2.8	4.6	2.8
	Tongue River	68.0		40.7	20.0
	Cooney	27.5	15.4	15.8	15.0**
Big Horn	Yellowtail	1,356.0	721.2	706.8	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). **AVERAGE FOR PERIOD OF RECORD

Agencies and Organizations Cooperating in Montana Snow Surveys

U. S. Forest Service
Region 1, Missoula, Montana
Montana Forests and Ranger Districts

U. S. Geological Survey
Helena, Montana
Portland, Oregon

U. S. Army Corps of Engineers
Portland, Oregon
Seattle, Washington
Walla Walla, Washington
Omaha, Nebraska

U. S. Indian Irrigation Service
St. Ignatius, Montana

U. S. Weather Bureau
Helena, Montana
Portland, Oregon
Kansas City, Missouri

U. S. Bureau of Sports Fisheries and Wildlife
Red Rock Lakes Refuge
Monida, Montana

U. S. Bureau of Reclamation
Billings, Montana
Boise, Idaho

U. S. Bonneville Power Administration
Portland, Oregon

U. S. Soil Conservation Service
Montana, Wyoming, Idaho

Soil and Water Conservation Districts
Montana Counties

U. S. National Park Service
Yellowstone National Park
Glacier National Park

Montana Power Company
Butte, Montana

Montana Water Resources Board
Helena, Montana

North Montana Branch Station
Agricultural Experiment Station
Havre, Montana

Montana State University
Agricultural Experiment Station
Bozeman, Montana

University of Montana
School of Forestry
Missoula, Montana

Water Rights Branch, Dept. of Lands and Forests
Victoria, British Columbia

Department of Energy, Mines and Resources
Calgary, Alberta

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 98
Bozeman, Montana 59715

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"The Conservation of Water begins with the Snow Survey"